

$$\sqrt{x^2+y^2} = \sqrt{x^2+y^2}$$

$$(a+b)^m$$

$$(x+y)^2$$

$$(3+5)^2$$

$$9+15+15+25$$

23/25

2.3/13) 2 cars leave at the same time
one N, the other S.

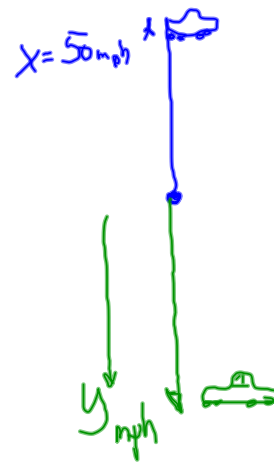
↳ 50 mph

After 3 hrs cars are 345 mi apart
How fast is the south bound car going?

x: speed of N car

y: speed of S car

mph: miles per hour



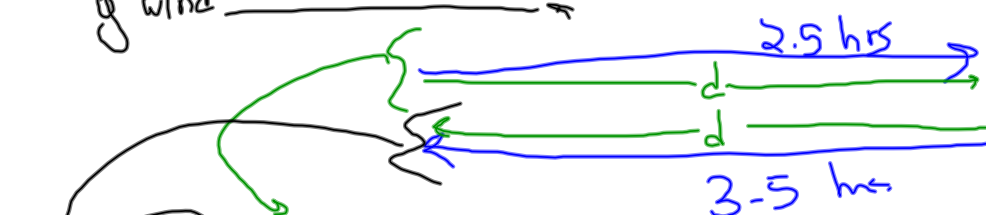
$$\begin{aligned}
 &50 \text{ mph} \cdot 3 \text{ hrs} + y \cdot 3 \text{ hrs} = 345 \text{ mi} \\
 &\text{speed} \cdot \text{time} = \text{dist} \\
 &150 + 3y = 345 \\
 &3y = 195 \\
 &y = 65 \text{ mph}
 \end{aligned}$$

(14)

$w = \text{speed of wind}$



$$a = \text{speed of airplane} = 360 \text{ mph}$$



$$d = \text{speed} \cdot \text{time} = (360 + w) \cdot 2.5$$

(1050)

$$d = \text{speed} \cdot \text{time} = (360 - w) \cdot 3.5$$

(1050)

$$(360 + w)(2.5) = (360 - w)(3.5)$$

$$900 + \frac{5}{2}w = 1260 - \frac{7}{2}w$$

$$6w = 360$$

$$w = 60 \text{ mph}$$

25) The dimensions of a rectangular box are consecutive integers.

$$V = 13800.$$

n is the smallest dimension.

The dim of the rp are

$$n, n+1, n+2.$$

$$n(n+1)(n+2) = 13800$$

$$n^3 + 3n^2 + 2n = 13800$$

$$n^3 + 3n^2 + 2n - 13800 = 0$$

calc says
 $n = \frac{23}{2}$

$$x^3 - 13800 = 0$$

$$\sqrt[3]{13800} \approx 23$$

$$13800 \wedge (1 \div 3)$$

$$\text{MATH} + 4$$

10) \$500 @ 12%

\$250 @ 18%

what is the combined (effective) interest rate.

$$\text{total free money} = 500(.12) + 250(.18)$$

$$= 60 + 45 = \$105$$

$$\text{total inv} = 500 + 250 = \underline{\$750}$$

$$\$750(x) = \$105$$

$$x = \frac{105}{750} = .14 = 14\%$$

$$\underline{2.4/37)} \quad (\sqrt{x+7})^2 = (x-5)^2 \quad (x-5)(x-5)$$

$$x+7 = x^2 - 5x - 5x + 25$$

$$\begin{pmatrix} x=2 \\ x=9 \end{pmatrix}$$

$$0 = x^2 - 11x + 18$$

2.9

$$0 = (x-9)(x-2)$$

$$\text{when } \cancel{x=2}: \sqrt{x+7} = x-5$$

$$\sqrt{9} (=3) = 2-5 = -3$$

$$\text{when } x=9: \sqrt{16} (=4) = 9-5 (=4)$$

when I write

$$\sqrt{9} = \cancel{2} + 3$$

$$\underline{x^2 = 9}$$

$$x = \pm 3$$

Precalc 2011-02-08